

# EUROPEAN PATENT OFFICE

## Patent Abstracts of Japan

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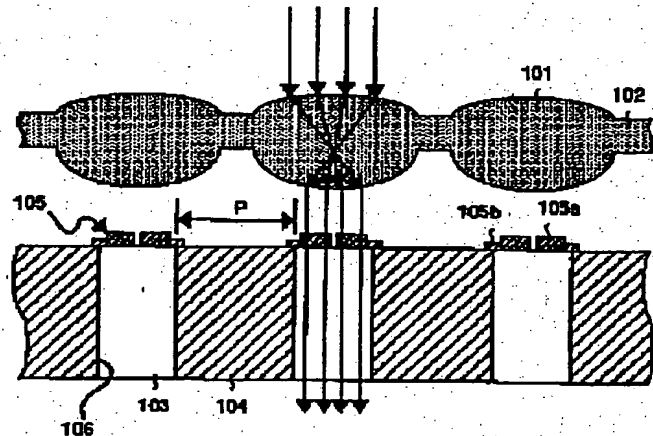
APPLICATION DATE : 18-07-96  
APPLICATION NUMBER : 08206471

APPLICANT : RICOH CO LTD;

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TITLE : SPATIAL LIGHT MODULATION  
ELEMENT



**ABSTRACT :** PROBLEM TO BE SOLVED: To make it possible to set the driving circuit, etc., of a shutter on a substrate without degrading the numerical aperture by providing the element with the shutter for controlling the passage and non-passage of the light which is made incident on through-holes and is condensed by a lens.

**SOLUTION:** The paralleled light is made incident on the microscopes 101 from a light source side and the incident light is made into parallel beams reduced in spot diameter by the microlenses 101. The apertures of the through-holes 103 of a substrate 104 are irradiate with these beams. The beams are so controlled as to pass or not pass the through-holes 103 by opening and closing the light shielding plates 105a of the shutter 105 of a flap type. In the close state, the shutter 105 is held closed and the apertures of the through-holes 103 of the substrate 104 are held closed by two sheets of the light shielding plates 105a to prohibit the beams from passing the through-holes 103. In the open state, electrostatic attraction force acts between the light shielding plates 105a and the walls 106 of the through-holes 103 when a potential difference is applied between both by a power source, by which the light shielding plates 105a are attracted to the walls 106 of the through-holes 103 and the beams are passed through the through-holes 103.

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